

In the Claims:

1. (previously presented) A method for digitizing a signal, comprising:
sampling and holding an analog signal to yield a sampled signal, the analog signal comprising information;
filtering the sampled signal at a passive filter circuit to yield a filtered signal, the passive filter circuit comprising at least one passive element, the filtered signal characterized by a bandpass response; and
quantizing the filtered signal to yield a digital signal, the digital signal corresponding to the analog signal, the digital signal comprising the information.
2. (previously presented) The method of Claim 1, wherein the analog signal comprises an intermediate frequency signal.
3. (previously presented) The method of Claim 1, wherein the passive filter circuit comprises a passive bandpass loop filter.
4. (previously presented) The method of Claim 1, wherein the passive filter circuit comprises at least one filter path, each filter path comprising a highpass filter.

5. (previously presented) The method of Claim 1, wherein:
the passive filter circuit further comprises a switched capacitor circuit; and
filtering the sampled signal at the passive filter circuit to yield the filtered signal
further comprises:

receiving at least one timing signal and at least one control signal;

switching the switched capacitor circuit using the at least one timing
signal to yield a highpass filtered signal, the highpass filtered signal characterized by a
highpass response; and

interleaving the highpass filtered signal with the at least one control signal
to yield the filtered signal, the filtered signal characterized by the bandpass response.

6. (previously presented) The method of Claim 1, further comprising mixing at
least two voltage inputs to yield the analog signal in a current mode.

7. (previously presented) A sigma-delta modulator, comprising:

a sample-hold circuit operable to sample and hold an analog signal to yield a
sampled signal, the analog signal comprising information;

a passive filter circuit coupled to the sample-hold circuit and operable to filter the
sampled signal to yield a filtered signal, the passive filter circuit comprising at least one
passive element, the filtered signal characterized by a bandpass response; and

a comparator coupled to the passive filter circuit and operable to quantize the
filtered signal to yield a digital signal, the digital signal corresponding to the analog
signal, the digital signal comprising the information.

8. (previously presented) The modulator of Claim 7, wherein the analog signal comprises an intermediate frequency signal.

9. (previously presented) The modulator of Claim 7, wherein the passive filter circuit comprises a passive bandpass loop filter.

10. (previously presented) The modulator of Claim 7, wherein the passive filter circuit comprises at least one filter path, each filter path comprising a highpass filter.

11. (previously presented) The modulator of Claim 7, wherein the passive filter circuit comprises a switched capacitor circuit, the passive filter circuit further operable to:

receive at least one timing signal and at least one control signal;

switch the switched capacitor circuit using the at least one timing signal to yield a highpass filtered signal, the highpass filtered signal characterized by a highpass response; and

interleave the highpass filtered signal with the at least one control signal to yield the filtered signal, the filtered signal characterized by the bandpass response.

12. (previously presented) The modulator of Claim 7, further comprising a mixer stage coupled to the passive filter circuit and operable to mix at least two voltage inputs to yield the analog signal in current mode.

13. (previously presented) A sigma-delta modulator, comprising:

a sample-hold circuit operable to sample and hold a next analog signal to yield a sampled signal, the analog signal comprising information;

a filter circuit coupled to the sample-hold circuit and operable to filter the sampled signal to yield a filtered signal, the passive filter circuit comprising at least one passive element, the filtered signal characterized by a bandpass response;

a comparator coupled to the passive filter circuit and operable to quantize the filtered signal to yield a digital signal, the digital signal corresponding to the analog signal, the digital signal comprising the information; and

a feedback loop coupled to the comparator and to the sample-hold circuit and operable to transmit a feedback signal from the comparator to the sample-hold circuit.

14. (previously presented) The modulator of Claim 13, wherein the analog signal comprises an intermediate frequency signal.

15. (previously presented) The modulator of Claim 13, wherein the filter circuit comprises a passive bandpass loop filter.

16. (previously presented) The modulator of Claim 13, wherein the filter circuit comprises at least one filter path, each filter path comprising a highpass filter.

17. (previously presented) The modulator of Claim 13, the filter circuit further comprising a switched capacitor circuit, the filter circuit further operable to:

receive at least one timing signal and at least one control signal;

switch the switched capacitor circuit using the at least one timing signal to yield a highpass filtered signal, the highpass filtered signal characterized by a highpass response; and

interleave the highpass filtered signal with the at least one control signal to yield the filtered signal, the filtered signal characterized by a bandpass response.

18. (previously presented) The modulator of Claim 13, further comprising a mixer stage coupled to the filter circuit and operable to mix at least two voltage inputs to yield the next analog signal in current mode.

19. (currently amended) A sigma-delta modulator, comprising:

means for sampling and holding an analog signal to yield a sampled signal, the analog signal comprising information;

means for filtering the sampled signal with a passive filter circuit to yield a filtered signal, the passive filter circuit comprising at least one passive element, the filtered signal characterized by a bandpass response; and

means for quantizing the filtered signal to yield a digital signal, the digital signal corresponding to the analog signal, the digital signal comprising the information.

20. (previously presented) A sigma-delta modulator, comprising:

a sample-and-hold circuit operable to sample and hold a next analog signal to yield a sampled signal, the analog signal comprising information, the analog signal comprising an intermediate frequency signal;

a filter circuit coupled to the sample-and-hold circuit and operable to filter the sampled signal to yield a filtered signal, the passive filter circuit comprising at least one passive element, the filtered signal characterized by a bandpass response, the filter circuit comprising at least one filter path, each filter path comprising a highpass filter, the filter circuit further comprising at least two paths, each path comprising a switched capacitor circuit, the filter circuit further operable to:

receive at least one timing signal and at least one control signal;

switch the switched capacitor circuit using the at least one timing signal to yield a highpass filtered signal, the highpass filtered signal characterized by a highpass response; and

interleave the highpass filtered signal with the at least one control signal to yield the filtered signal, the filtered signal characterized by a bandpass response;

a comparator coupled to the passive filter circuit and operable to quantize the filtered signal to yield a digital signal, the digital signal corresponding to the analog signal, the digital signal comprising the information;

a feedback loop coupled to the comparator and to the sample-and-hold circuit and operable to transmit a feedback signal from the comparator to the sample-and-hold circuit; and

a mixer stage coupled to the filter circuit and operable to mix at least two voltage inputs to yield the next analog signal in current mode.